



TWAS Regional Prizes for Public Understanding and Popularization of Science

The prizes, which are awarded by TWAS's five regional offices, carry a USD3,000 cash award. They are given to individuals who have made outstanding contributions to improving public understanding and appreciation of science.



Indian Prime Minister Manmohan Singh presents the TWAS-ROCASA prize to Arvind Gupta

TWAS Regional Office for Central and South Asia (TWAS-ROCASA)

Arvind Gupta works at the Muktangan Science Centre for Children located at the Inter-University Centre for Astronomy and Astrophysics in Pune, India. He is recognized for his role as a science populariser and toymaker. He has conducted thousands of workshops in India and abroad, and made numerous TV shows on making science toys from junk. He writes, translates and shares his passion for books and toys through his popular website arvindguptatoys.com. After obtaining a BTech from IIT Kanpur and being employed with Tata Motors Pune, Gupta went to work with a grassroots village science teaching programme for children in the tribal district of Hoshanagabad, Madhya Pradesh. While there, he developed ways of using ordinary things for doing science and recycling modern junk into products. His first book *Matchstick Models and other Science Experiments* was translated into 12 Indian languages and sold more than half a million copies. His science models and toys were widely featured in daily newspapers and magazines across the country. He has written 17 books and translated over 115 books on science, environment and education in Hindi, and conducted science workshops for children and teachers in over 2,000 schools across the country. Gupta has presented over 110 TV programmes on science-based fun activities, innovative toys and teaching aids on national television. He was also featured as the Green Guru on the popular TV programme entitled "Living on the Edge" and has been featured on the *National Geographic* and several other national channels. Gupta's outstanding contribution in designing science teaching aids for young children has been recognized by several international organizations such as UNESCO, UNICEF, MIT Media Lab and International Toy Research teachers of several developing countries.

TWAS Regional Office for East and South-East Asia and the Pacific (TWAS-ROEAP)

Mahaletchumy Arujanan is executive director of the Malaysian Biotechnology Information Centre (MABIC). Arujanan is recognized for her role in promoting the benefits of the public understanding of science (PUS) to scientific institutions and social and academic communities in terms of human capital development, public acceptance of biotechnology research and its products, formulation of balanced policies and regulatory frameworks, and balanced media reporting in Malaysia. Most Malaysian institutions have not been aware of how PUS can impact research and development, human capital development, public acceptance of new technology and policy development. With Arujanan's involvement, more than 50 scientific institutions have been engaged in PUS. These institutions, including universities, research institutes, government agencies, and ministries, have taken a more active role in PUS. The role played by Arujanan also led these institutions to work together to create a bigger impact and reach out to a larger audience. Arujanan has also single-handedly built MABIC from an unknown centre to a globally renowned biotechnology information. He was the first person to organize hands-on biotechnology workshops for teachers with support from the Ministry of Education and has involved Islamic scholars in discussions regarding new technologies and the central role that social acceptance of these technologies has in advancing their applications. To date, Mahaletchumy is the only science communicator in Malaysia who conducts media workshop to ensure journalists have some basic

understanding of biotechnology. Through her work, Arujanan has reached scientists, policy makers, industry, media, students, religious leaders, teachers, investors, and regulators.

Queena N. Lee-Chua is a professor in the mathematics and psychology departments at the Ateneo de Manila university and is a columnist for the *Philippine Daily Inquirer* and *Working Mom Magazine* in the Philippines. She is recognized for her work in schools, government, civic groups, and business, and her role as a consultant to family businesses, finance companies, schools, NGOs, the Department of Education, and the Department of Science and Technology (DOST). Her column "Eureka!" appears in the Learning Section every Monday at the *Philippine Daily Inquirer*. She also writes a monthly column entitled "Homework" for *Working Mom Magazine*. She has written more than 20 books on mathematics, science and information technology, parenting, family businesses and financial matters, and inspirational stories. She also hosted the TV show "Fun with Math" on PTV 4, headed an Ateneo team that studied how public and private school students excel in school and has been a governing member of the National Book Development Board. Lee-Chua specializes in mathematics, science education and learning psychology, especially how they relate to child cognitive and behavioral development. She has been a commencement speaker to several schools, including the Ateneo de Manila Grade School and Immaculate Conception Academy Greenhills. For her work, she has been featured in *Asia Inc. Magazine's* Who's Hot in Asia in 2004, the Philippines' 25 Incredible Women in *Marie Claire Magazine* in October 2005, and honoured as an Outstanding Teacher Honoree by the Bato-Balani Foundation in September 2006 and one of DOST's Great Men and Women of Science in 2008.

Twas Arab Regional Office (Twas-ARO)

Elias Baydoun is professor of biology and biochemistry at the American University of Beirut, Jordan. Baydoun is recognized for his commitment to advanced education, research and entrepreneurship for the betterment of the Arab world, playing a pivotal role establishing prominent scientific institutions. Following the completion of his postgraduate studies at the University of Cambridge, UK, he undertook key roles in the early development of Yarmouk University. In addition to his duties as an associate professor in the Department of Biological Sciences, he was assistant to the president, director of planning and development and director of personnel. He later moved to the American University of Beirut, soon becoming chairman of the Department of Biology (1987-1993) during a critical phase in its development when he was the only full-time faculty member with a PhD. With minimal human resources, he rebuilt the department that is now prospering from his efforts. In recent years, he organized a series of international scientific meetings that helped lead to the establishment of the Arab Academy of Sciences in 2002 under the auspices of UNESCO. He is the inaugural secretary general of the Academy and is credited with organizing a number of successful and influential international conferences. Baydoun's other contributions include preparing biology curricula and textbooks for secondary schools and community colleges in Oman, writing school-biology textbooks for the Ministry of Education in Jordan, leading a project on health education in Jordanian schools, and authoring seven biology textbooks and others on health education. He has also translated into Arabic the most influential university-level textbook in biochemistry.

Twas Regional Office for Sub-Saharan Africa (Twas-ROSSA)

Felix Konotey-Ahulu is Dr. Kwegyir Aggrey distinguished professor of human genetics at the University of Cape Coast, Ghana, and consultant physician and genetic counsellor in sickle cell disease and other haemoglobinopathies in the United Kingdom. He is recognized for his outstanding contributions to sickle cell disease research and his efforts for increasing public awareness of this disease. He traced the hereditary sickle cell disease in his own family back to 1670 and was the first to teach Ghanaians and the world that hereditary rheumatism was in fact sickle cell disease. He subsequently gave lectures to students and the public that stressed one in three Ghanaians in Ghana and in the diaspora carry a beta globin gene that produces sickle haemoglobin 'S', haemoglobin 'C' or 'haemoglobin others'. He has encouraged healthy persons to find out their carrier status and wrote a book called *Sickle Cell Disease: The Case for Family Planning* to introduce the disease to adults as well as *The Sickle Cell Disease Patient* for a more in-depth look at the disease as well as those who live with it. He was the first to hold international conferences on the achievements of sickle cell disease patients and continues to use his genetic counselling to teach the public and has written on diseases such as malaria, meningitis and the epidemiology of AIDS, which he set out to study at the grassroots level throughout the continent when the pandemic broke out. Providing global teaching of all of these diseases, his websites www.sicklecell.md and www.konotey-ahulu.com offer valuable information for present and future public education.

Twas Regional Office for Latin America and the Caribbean (Twas-ROLAC)

Guillermo Chong Díaz is a professor of geology in the Department of Geological Sciences at the Catholic University of the North in Chile and director of two scientific museums: the Professor Humberto Fuenzalida Geological Museum at the Catholic University of the North and the Museum of the Atacama Desert. He is recognized for his promotion of the public understanding and popularization of science through his teaching, his books and his efforts in successfully establishing the two scientific museums that he currently heads. Díaz has pursued a successful career as a

scientist with more than 170 scientific publications and has served as a university professor for more than 35 years. In addition, he has produced two books for teaching geology to children. He has previously received the National Prize in Geology in 2003, the CONICYT Prize Explora in 1997 and the Bicentennial Medal by the Regional Governor of Antofagasta in 2010.